

## **4.12 TRANSPORTATION**

This section provides an evaluation of the project's traffic impacts based on the results of the Traffic Study for San Quentin State Prison Condemned Inmate Complex Project prepared by DKS Associates in September 2004. A copy of this report is included in Appendix G. This analysis is based on site visits conducted in March 2004, correspondence with CDC, the City of Larkspur, and the City of San Rafael, and incorporation, where appropriate, of data from local and regional transportation studies.

The project site is not located within 2 miles of a public or private airport and would not construct facilities that would interfere with airport operations. The project would not change any existing access points (i.e., east gate, west gate) or create new access points to SQSP such that it would create hazardous design features or interfere with emergency access to the project site. Further, the project would not alter any existing alternative transportation facilities (i.e., pedestrian, bicycle, Ferry service, bus stops). As such, these issues are not evaluated further in this Draft EIR. However, where appropriate, this section describes the existing transportation facilities near the project site.

As described in Chapter 4, where appropriate and relevant, the analysis in this section identifies the differences in impacts that would be anticipated to occur with implementation of the project under 4 conditions: budgeted inmate capacity, maximum design inmate capacity, single level design option, and stacked design option. In the case of transportation, the single level and stacked design option would not change the number of vehicle trips generated at the site and would not change the transportation conditions of the project. Under budgeted capacity conditions, the total number of staff at SQSP would be equal to existing staffing levels. The vehicle trips associated with this condition is accounted for under existing conditions and is not evaluated separately, and no impacts would result because there would be no changes in trips. Therefore, this analysis focuses on the transportation-related impacts of maximum design capacity conditions (i.e., 7,380 inmates) and associated staffing levels.

### **4.12.1 EXISTING CONDITIONS**

#### **EXISTING ROADWAY NETWORK**

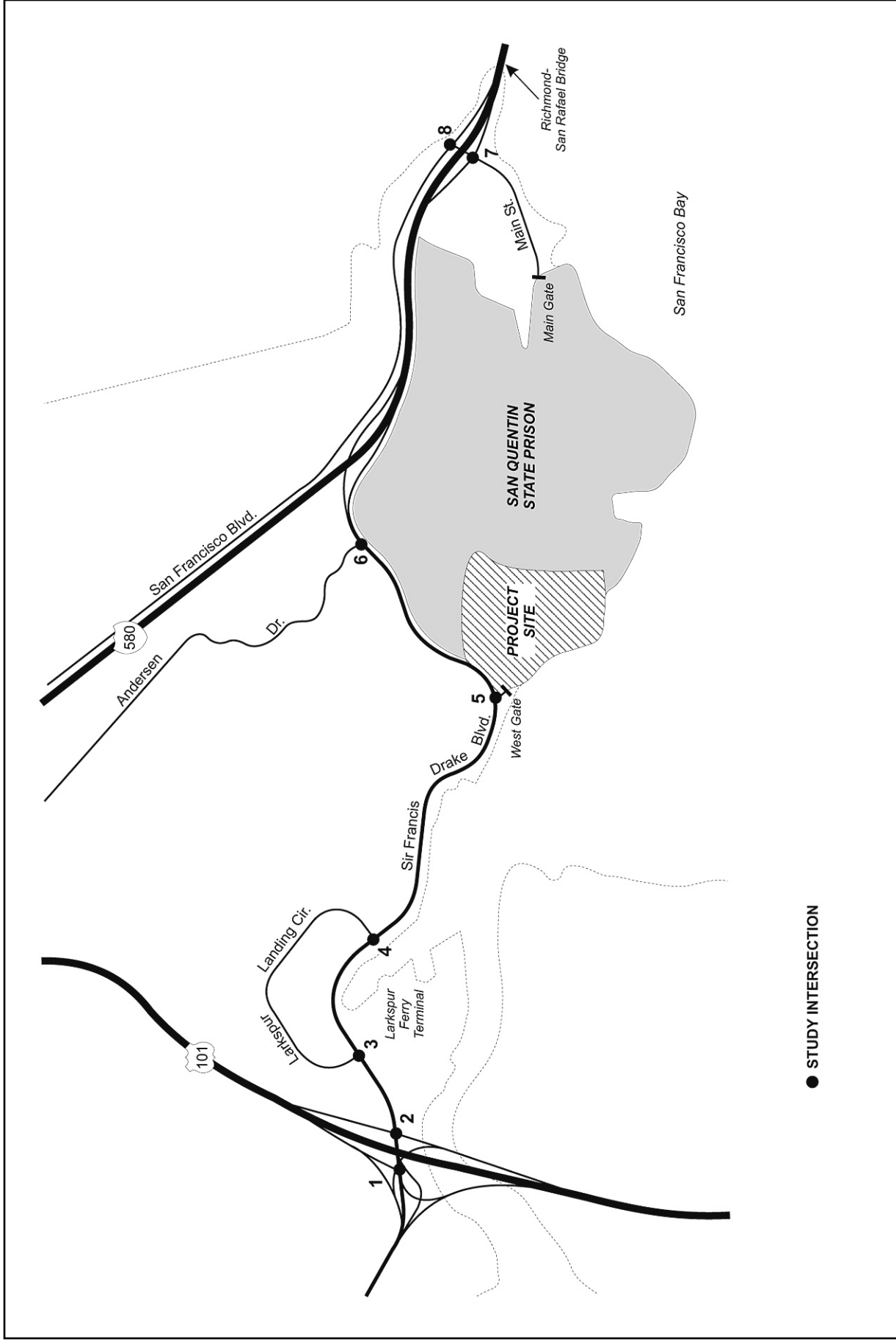
Regional access to SQSP and the project site is provided by Interstate 580 (I-580) and U.S. Highway 101 (U.S. 101). Direct access to SQSP is provided by Main Street at the east gate entrance of SQSP through the residential community of San Quentin Village and by Sir Francis Drake Boulevard at the west gate entrance. The east gate currently serves as the main access point for staff and visitors of SQSP, while west gate provides access for commercial vehicles, the delivery of goods and material, and residents living in onsite housing at SQSP. Both east and west gate are staffed by correctional officers 24 hours a day, 7 days a week.

The regional and local roadways that could be affected by project traffic are described in more detail below and illustrated in Exhibit 4.12-1.

#### ***Regional Roadways***

##### **U.S. Highway 101 (U.S. 101)**

This highway extends from Los Angeles in the south to the Oregon state border in the north. In the vicinity of SQSP, U.S. 101 runs in the north-south direction, and includes 6 mixed-flow lanes (3 in each direction); one high occupancy vehicle (HOV) lane is provided in the southbound direction, south of Sir Francis Drake Boulevard. U.S. 101 provides access to the project vicinity via an interchange with Sir



Source: DKS Associates 2004

## Existing Roadway Network

EXHIBIT 4.12-1

Francis Drake Boulevard. This roadway is part of the Marin County Congestion Management Agency's 2003 Congestion Management Program (discussed below) network.

### **Interstate 580 (I-580)**

This facility extends from the City of Tracy to the San Francisco Bay Area. I-580 intersects with Interstate 5, Interstate 205, and Interstate 80. In the vicinity of SQSP, I-580 runs in the east-west direction, and includes 4 mixed-flow lanes (2 in each direction). I-580 provides access to the project vicinity via on/off ramps at San Francisco Boulevard-Main Street and Sir Francis Drake Boulevard, and access to the East Bay where it forms the Richmond-San Rafael Bridge. This roadway is part of the Marin County Congestion Management Agency's 2003 Congestion Management Program network.

### **Sir Francis Drake Boulevard**

This roadway extends from the San Quentin Peninsula in the east to its terminus at Shoreline Highway near the Point Reyes National Forest, in the west. In the vicinity of SQSP, Sir Francis Drake Boulevard is a 2-lane undivided roadway (1 lane in each direction) and has a posted speed limit of 45 miles per hour (mph). In the City of Larkspur, Sir Francis Drake Boulevard is a 4-lane (2 lanes in each direction) principal arterial with a posted speed limit of 40 mph. This roadway is part of the Marin County Congestion Management Agency's 2003 Congestion Management Program network.

### ***Local Roadways***

#### **Larkspur Landing Circle**

Larkspur Landing Circle is a 4-lane (2 lanes in each direction) residential/commercial street serving the Larkspur Landing mixed-use development. This loop road has a posted speed limit of 25 mph and is north of Sir Francis Drake Boulevard and east of U.S. 101. It has 2 signalized access points to Sir Francis Drake Boulevard: Larkspur Landing East and Larkspur Landing West. Larkspur Landing West also serves the Larkspur Ferry Terminal located south of Sir Francis Drake Boulevard.

#### **Main Street**

Main Street is a 2-lane minor roadway adjacent to SQSP east gate. It extends from San Francisco Boulevard in the east to the SQSP east gate entrance. Main Street can be accessed via the I-580 on/off ramps at the San Francisco Boulevard-Main Street exit. Main Street provides access homes in the residential community of San Quentin Village and access to SQSP.

#### **Andersen Drive**

Andersen Drive runs in a north-south direction and consists of 2 lanes (1 lane in each direction). It connects Sir Francis Drake Boulevard to Bellam Boulevard in San Rafael and continues on to end at 2nd Street in San Rafael, where it becomes A Street. It has a posted speed limit of 25 mph.

### **EXISTING TRANSIT NETWORK**

#### ***Bus Transit and Paratransit Service***

Golden Gate Transit currently provides regional fixed-route bus service in San Francisco, Marin, and Sonoma counties. Limited service is also available between San Rafael in central Marin and the El

Cerrito/Del Norte BART station in the east bay (Contra Costa County). Limited local service is provided within Marin County, under a contract with the Marin County Transit District.

Golden Gate Transit's Bus Route 29 provides local daily bus (fixed-route) service to SQSP, stopping at a bus stop located at the intersection of Sir Francis Drake Boulevard and the west gate entrance to SQSP. Route 29 travels along Sir Francis Drake Boulevard and operates on weekdays between 6:40 a.m. to 10:15 p.m. in the eastbound direction and from 7:20 a.m. to 11:00 p.m. in the westbound direction. On Saturdays, Route 29 bus service is provided from 7:15 a.m. to 10:15 p.m. in the eastbound direction and from 7:55 a.m. to 10:55 p.m. in the westbound direction. No Sunday service is provided. Exhibit 4.12-2 illustrates the bus transit facilities in the project vicinity.

Golden Gate Transit also provides inter-county paratransit service (door-to-door) in the vicinity of SQSP. Paratransit service is operated by Whistlestop Wheels for the same operational hours as the basic fixed route bus-route transit service.

### ***Ferry Service***

Golden Gate Ferry currently provides daily ferry service between the cities of San Francisco and Larkspur in central Marin County, and between San Francisco and Sausalito in southern Marin County. The Larkspur Ferry Terminal is located approximately 2 miles west of SQSP. Ferry service is provided from the Larkspur Ferry Terminal between 6:00 a.m. and 8:15 p.m. on weekdays and from 9:40 a.m. to 5:40 p.m. on weekends and holidays. Short-term and long-term parking areas are provided at the Larkspur Terminal.

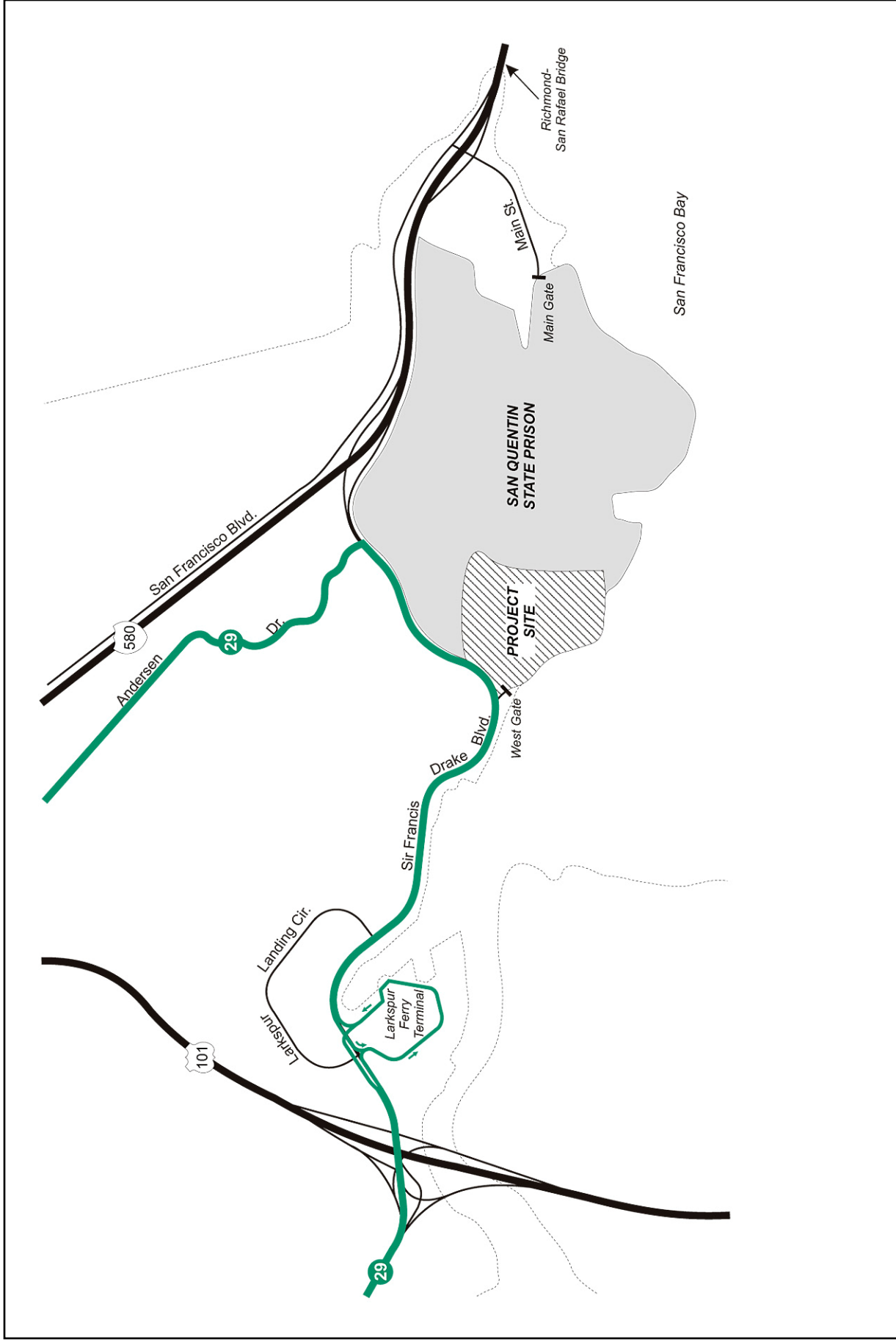
## **EXISTING BICYCLE AND PEDESTRIAN CIRCULATION**

The 2000 Marin County Bicycle and Pedestrian Master Plan identifies the pedestrian and bicycle facilities in the vicinity of SQSP. The existing bicycle system consists of three facility classifications:

- Class I facilities (bike path) – are paved facilities that are physically separated from roadways used by motor vehicles by space or a physical barrier and are designated for exclusive bicycle and pedestrian use.
- Class II facilities (bike lane) – are lanes on the outside edge of roadways reserved for the exclusive use of bicycles, and designated with special signing and pavement markings.
- Class III facilities (bike route) – are roadways recommended for use by bicycles and often connect roadways with bike lanes and bike paths. Bike routes are designated with signs.

The existing bicycle facilities map, as illustrated in the Marin County Bicycle and Pedestrian Master Plan, identifies Sir Francis Drake Boulevard as a major bicycle facility in the vicinity of the project site. Sir Francis Drake Boulevard provides bike paths, bike lanes and a segment of the road is designated as a bike route. Based on field observations, Andersen Drive provides bike lanes in each travel direction. Exhibit 4.12-3 illustrates the bicycle facilities in the vicinity of the project site.

Pedestrian facilities within the vicinity of SQSP include crosswalks, sidewalks, and pedestrian signals at the Larkspur Landing Circle east and west intersections with Sir Francis Drake Boulevard. No pedestrian facilities are provided along Sir Francis Drake Boulevard near west gate.



Source: DKS Associates 2004

## Existing Transit Facilities

EXHIBIT 4.12-2

## **EXISTING PARKING FACILITIES**

SQSP provides several designated, paved, and unpaved parking areas. A parking survey was conducted by DKS Associates to determine the number of onsite parking spaces at SQSP. In general, staff and visitor parking areas are provided near the east gate entrance. A total 623 designated spaces are provided near east gate and include the following:

- main employee parking lot (383 spaces),
- visitor parking lot (82 spaces),
- overflow parking lot (91 spaces),
- maintenance and emergency vehicles parking lot (10 spaces), and
- staff and personnel parking lot with handicap parking spaces (57 spaces).

Designated parking areas are provided in other areas of SQSP including 218 spaces located near west gate entrance. In general, these spaces provide parking for prison-related vehicles and staff vehicles associated with prison facilities located in the western portion of SQSP. These areas include parking for:

- designated state vehicles (135 spaces),
- recreational vehicles (42 spaces), and
- H-Unit (SQSP prison facility) (41 spaces).

On-street parking is permitted along Sir Francis Drake Boulevard immediately adjacent to the west gate entrance. Although this area is used infrequently during typical weekday and weekend conditions, it is frequently used by recreational windsurfers that access San Francisco Bay when weather conditions are favorable.

### **4.12.2 REGULATORY SETTING**

#### ***Marin County Congestion Management Program***

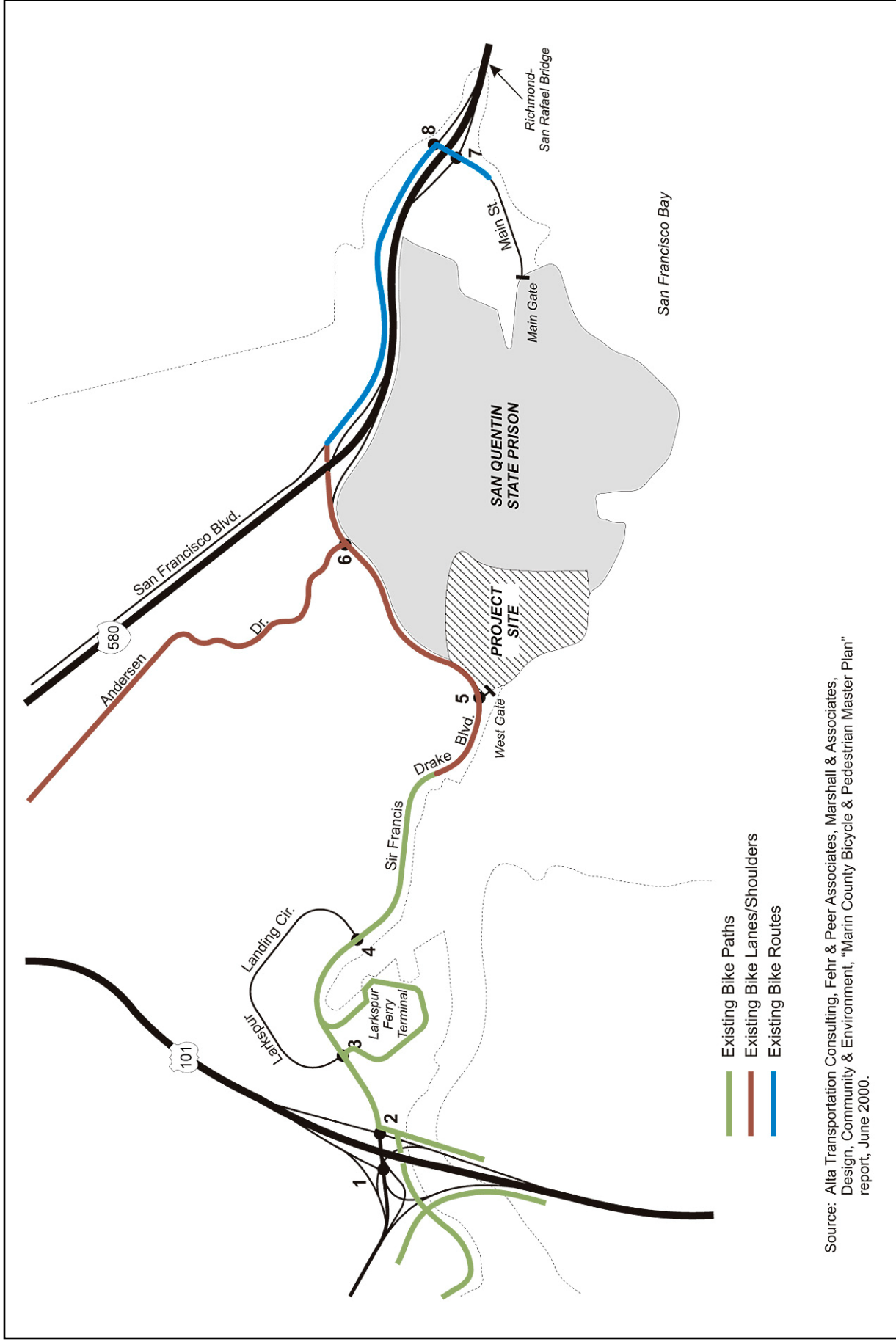
The Marin County Congestion management Agency (CMA) manages and administers a countywide Congestion Management Program (CMP). The purposes of the CMP are: 1) to establish level of service standards for designated freeways, highways, and local arterials; and 2) to maintain or achieve those standards by increasing capacity of designated roads and/or managing travel demand on those roads. In the project vicinity U.S. 101, I-580, and Sir Francis Drake Boulevard are part of the CMP's designated roadway network. The CMP has established minimum service standards for all roadways within their network.

Significant impacts at CMP-designated intersections would occur when the addition of project traffic causes the level of service (LOS) to drop below:

- LOS E for freeways and rural expressways (i.e., U.S. 101, I-580), and
- LOS D for urban and suburban arterials.

#### ***City of Larkspur General Plan (1990)***

The goal of the Circulation Element is to provide safe and efficient transportation facilities that operate at acceptable levels of service, while not degrading the quality of life in the community. The Circulation Element provides policies and programs for roadways, highways, freeways.



Source: DKS Associates 2004

## Existing Bicycle Facilities

EXHIBIT 4.12-3

Significant impacts at intersections located in the City of Larkspur (CMP and local) would occur when the addition of project traffic causes:

- the performance of intersections to fall below acceptable level of service standards (i.e., LOS D for signalized intersections and LOS C for unsignalized intersection), or otherwise significantly further reduce the system performance if it is already below the acceptable level of service, or will cause a significant degradation in service levels for affected intersection at their peak traffic periods; or,
- an increase in traffic volumes on any roadway segment or intersection approach by more than 10 vehicles or 1% of the existing volume, whichever is less.

### ***City of San Rafael General Plan***

San Rafael's key circulation improvement strategy is to create a safe and well managed transportation network that provides greater choice for the traveler and limits, or even reduces, congestion on the City's roads. The Circulation Element provides policies and programs for roadways, transit, pedestrians, bicyclists, and parking.

Significant impacts at intersections located in the City of San Rafael (CMP and local) would occur when the addition of project traffic causes:

- an unsignalized intersection with baseline traffic volumes operating at an acceptable LOS (i.e., LOS A, B, C, D, or E) to deteriorate to an unacceptable condition (i.e., LOS F), or
- an unsignalized intersection operating at unacceptable conditions (i.e., LOS F) to increase the average vehicle delay of five seconds or more.

### **LEVELS OF SERVICE**

The ability of an intersection to accommodate vehicles moving through the intersection is described in terms of the amount of delay that an average vehicle experiences at the intersection before it moves in its desired direction. The LOS of an intersection is a measurement of delay at the intersection and the ability of the intersection to accommodate traffic volumes.

Traffic delay is defined as the total elapsed time (seconds/vehicle) when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. LOS uses letters A through F (lowest to highest traffic congestion, respectively) to indicate the amount of congestion and delay. Table 4.12-1 defines LOS for signalized intersections and Table 4.12-2 defines LOS for unsignalized intersections.

Existing intersection operating conditions were evaluated for the weekday a.m. peak hour (generally 7:00 a.m. to 9:00 a.m.), the midday peak hour (generally 1:30 p.m. to 3:30 p.m.), and the p.m. peak hour (generally 4:00 p.m. to 6:00 p.m.). The a.m. and p.m. peak hours were evaluated because during these periods regional and local roadways near SQSP experience their highest traffic volumes. The midday peak hour was evaluated because shift changes at SQSP are occurring during this period and trips on local roadways are expected to be temporarily increased.



**Table 4.12-1  
Signalized Intersection LOS Definitions**

<b>Level of Service</b>	<b>Avg. Delay (sec/veh)</b>	<b>Description</b>
A	≤ 5.0	Free flow; insignificant delays.
B	5.1 – 15.0	Stable flow, but speeds are beginning to be restricted by traffic condition; slight delays.
C	15.1 – 25.0	Stable flow, but most drivers cannot select their own speeds and feel somewhat restricted; acceptable delays.
D	25.1 – 40.0	Approaching unstable flow, and drivers have difficulty maneuvering; tolerable delays.
E	40.1 – 60.0	Unstable flow with stop and go; delays
F	≥ 60.0	Total breakdown; congested conditions with excessive delays.
Source: Traffic Impact Assessment and Parking Report for 2000 Larkspur Landing Circle – City of Larkspur. Prepared for Campus Properties LLC by Dowling Associates. November 20, 2003.		

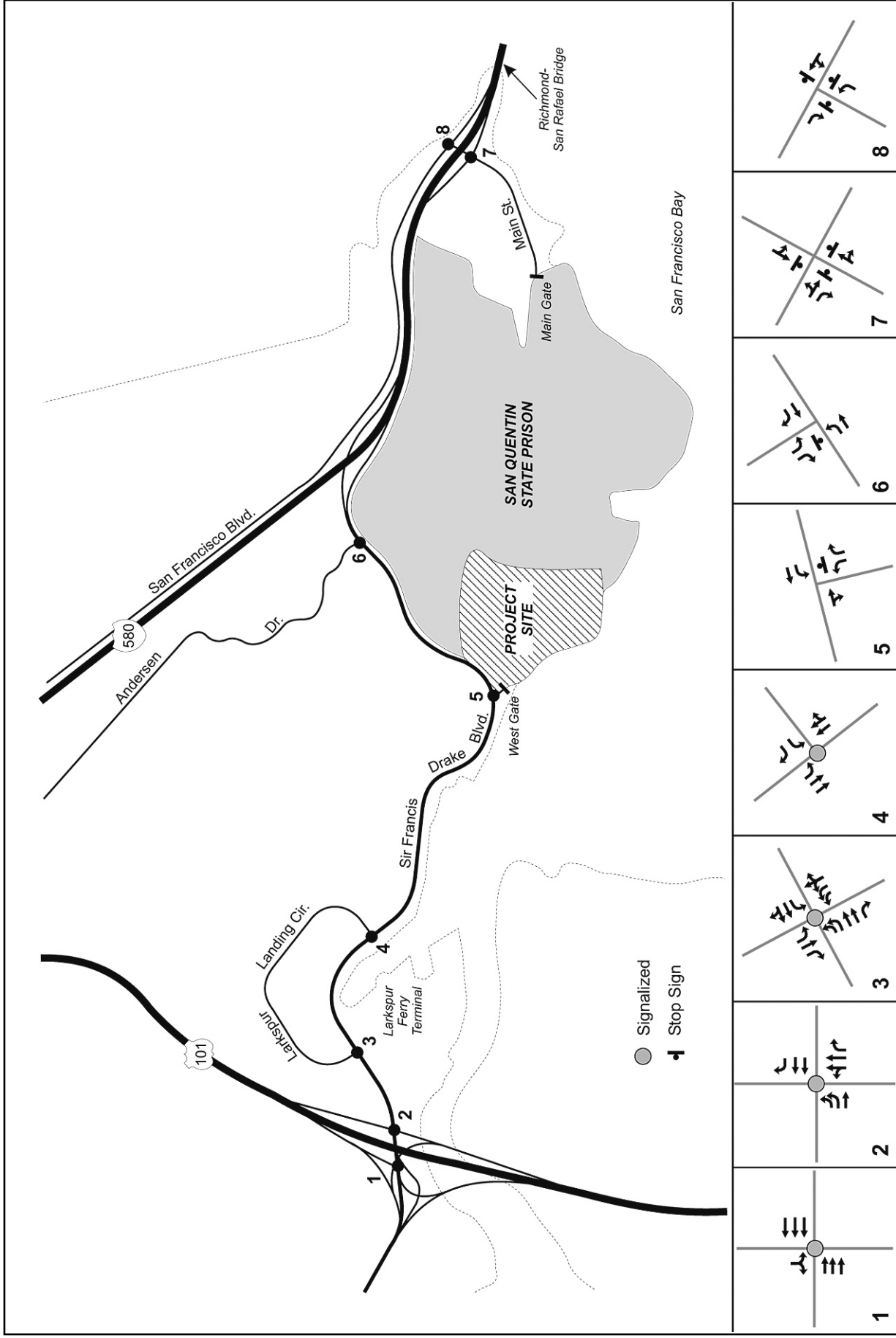
**Table 4.12-2  
Unsignalized Intersection LOS Definition Two-Way Stop & All Way Stop Controlled Intersections**

<b>Level of Service</b>	<b>Average Total Delay (seconds per vehicle)</b>	<b>Description</b>
A	≤ 10	Little or no delay
B	> 10 and ≤ 15	Short traffic delay
C	> 15 and ≤ 25	Average traffic delay
D	> 25 and ≤ 35	Long traffic delay
E	> 35 and ≤ 50	Very long traffic delay
F	> 50	Extreme delays potentially affecting other traffic movements in the intersection.
Source: Highway Capacity Manual Transportation Research Board 2000		

Based on observations and consultation with local agencies, the following 8 intersections (i.e., study intersections) were selected for evaluation in this analysis:

1. U.S. 101 SB off-ramp & Sir Francis Drake Boulevard
2. U.S. 101 NB on/off ramp & Sir Francis Drake Boulevard
3. Larkspur Landing Circle (West) & Sir Francis Drake Boulevard
4. Larkspur Landing Circle (East) & Sir Francis Drake Boulevard
5. West Gate Entrance & Sir Francis Drake Boulevard
6. Andersen Drive & Sir Francis Drake Boulevard
7. Main Street & I-580 EB on/off ramp
8. Main Street & I-580 EB off-ramp

The location and existing controls at these intersections are presented in Exhibit 4.12-4. Vehicle turning movements at these intersections were measured in March 2004.



Source: DKS Associates 2004

## Existing Study Intersections and Traffic Controls

EXHIBIT 4.12-4

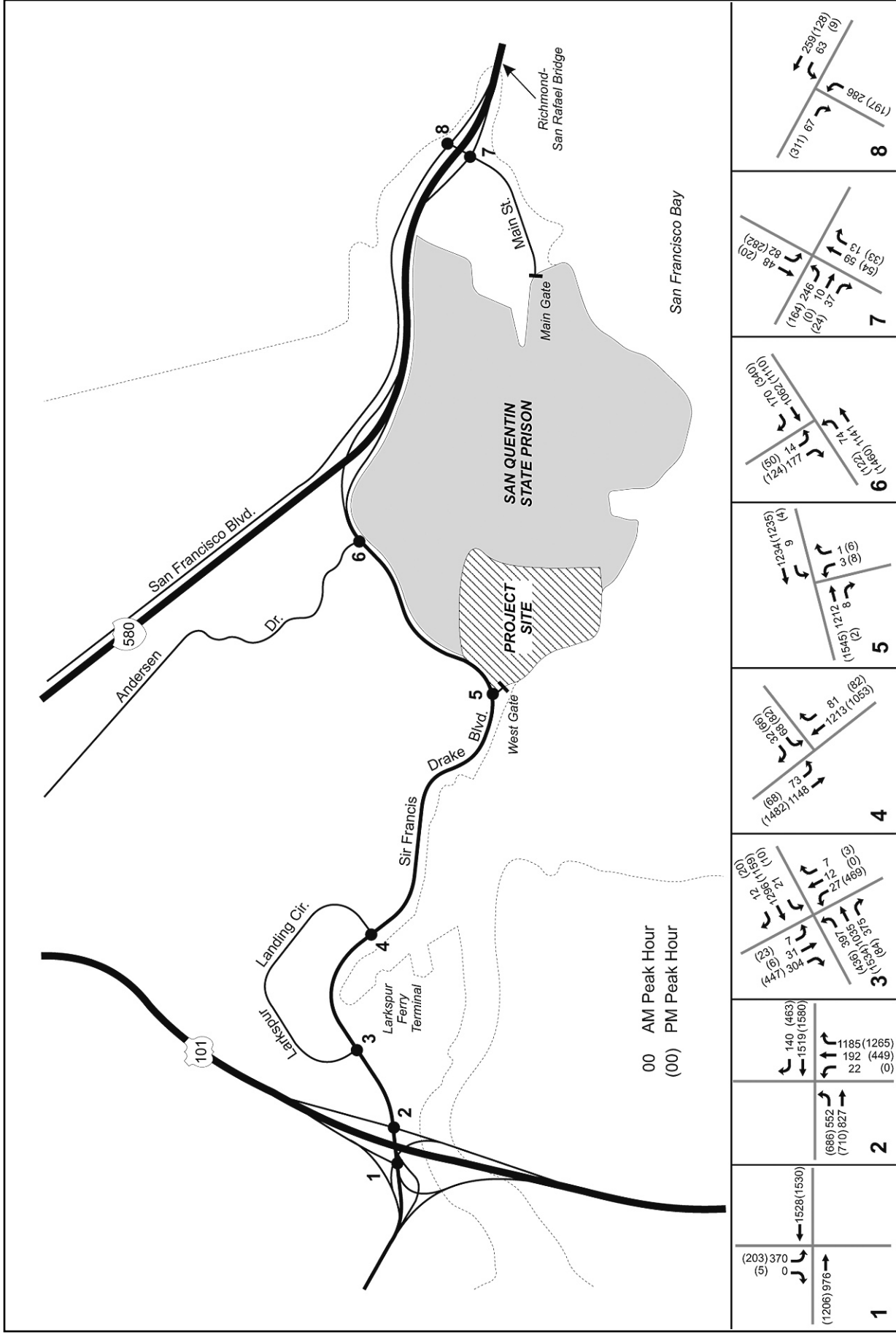
## METHODOLOGY

Because the signalized study intersections are all located in the City of Larkspur, the traffic LOS for signalized intersections was calculated using methodology presented in the 1994 Highway Capacity Manual and using established methodology provided by the City of Larkspur. Traffic LOS for unsignalized intersections was calculated using methodology presented in the 2000 Highway Capacity Manual (Transportation Research Board, Special Report 209), which is the accepted method in both the City of Larkspur and the City of San Rafael. Specific details on this methodology can be found in the Traffic Analysis for the San Quentin State Prison Condemned Inmate Complex (Appendix G) (DKS 2004).

### *Existing Roadway LOS*

The existing traffic operations during the weekday a.m., weekday midday, weekday p.m., and weekend midday peak hours at the study intersections are shown in Table 4.12-3 and illustrated on Exhibits 4.12-5, 4.12-6, and 4.12-7.

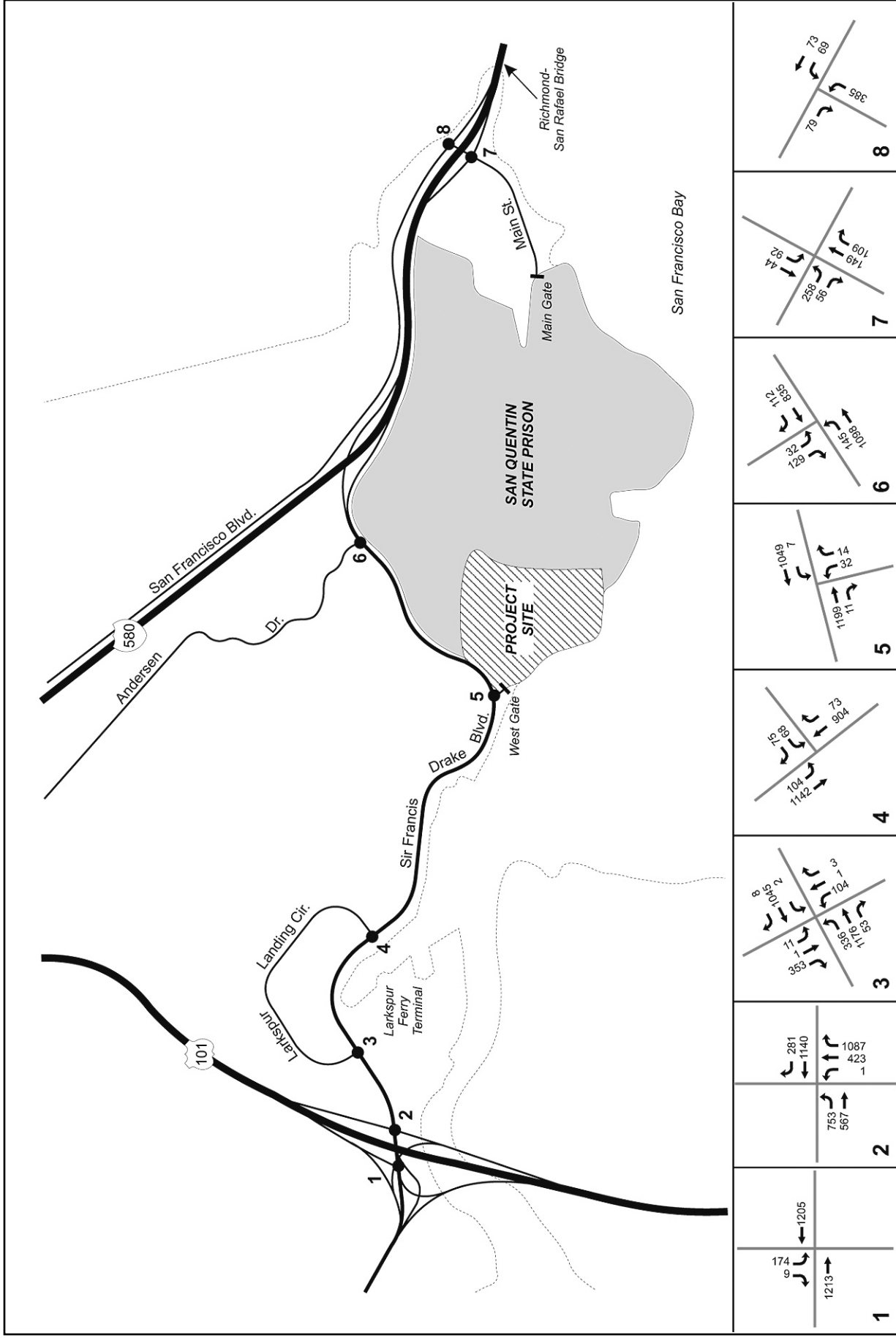
<b>Table 4.12-3</b> <b>Traffic Operating Conditions Existing Scenario</b>									
#	Intersection	Weekday						Weekend	
		a.m. Peak		Midday		p.m.		Midday	
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>
1	U.S. 101 SB off-ramp/Sir Francis Drake Boulevard	12.7	B	5.6	B	6.4	B	4.5	A
2	U.S. 101 NB on/off ramp/Sir Francis Drake Boulevard	15.2	C	16.5	C	20.3	C	15.9	C
3	Larkspur Landing Cr (W)/Sir Francis Drake Boulevard	12.9	B	14.5	B	19.0	C	13.3	B
4	Larkspur Landing Cr (E)/Sir Francis Drake Boulevard	5.8	B	5.7	B	5.8	B	6.5	B
5*	San Quentin West Gate/Sir Francis Drake Boulevard	>50	F	>50	F	>50	F	>50	F
6*	Andersen Drive & Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	>50	F
7*	Main Street/I-580 EB on/off ramp <sup>3</sup>	11.0	B	15.2	C	12.4	B	9.8	A
8*	Main Street/I-580 WB off-ramp <sup>3</sup>	11.8	B	12.5	B	9.8	A	9.4	A
Notes: * Unsignalized Intersection. Level of Service based on Average Delay (seconds per vehicle). <sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle. <sup>2</sup> LOS: Level of Service <sup>3</sup> City of San Rafael Intersection Source: DKS Associates 2004									



Source: DKS Associates 2004

## Existing Roadway Traffic Volumes – Weekday AM and PM Peak Hour

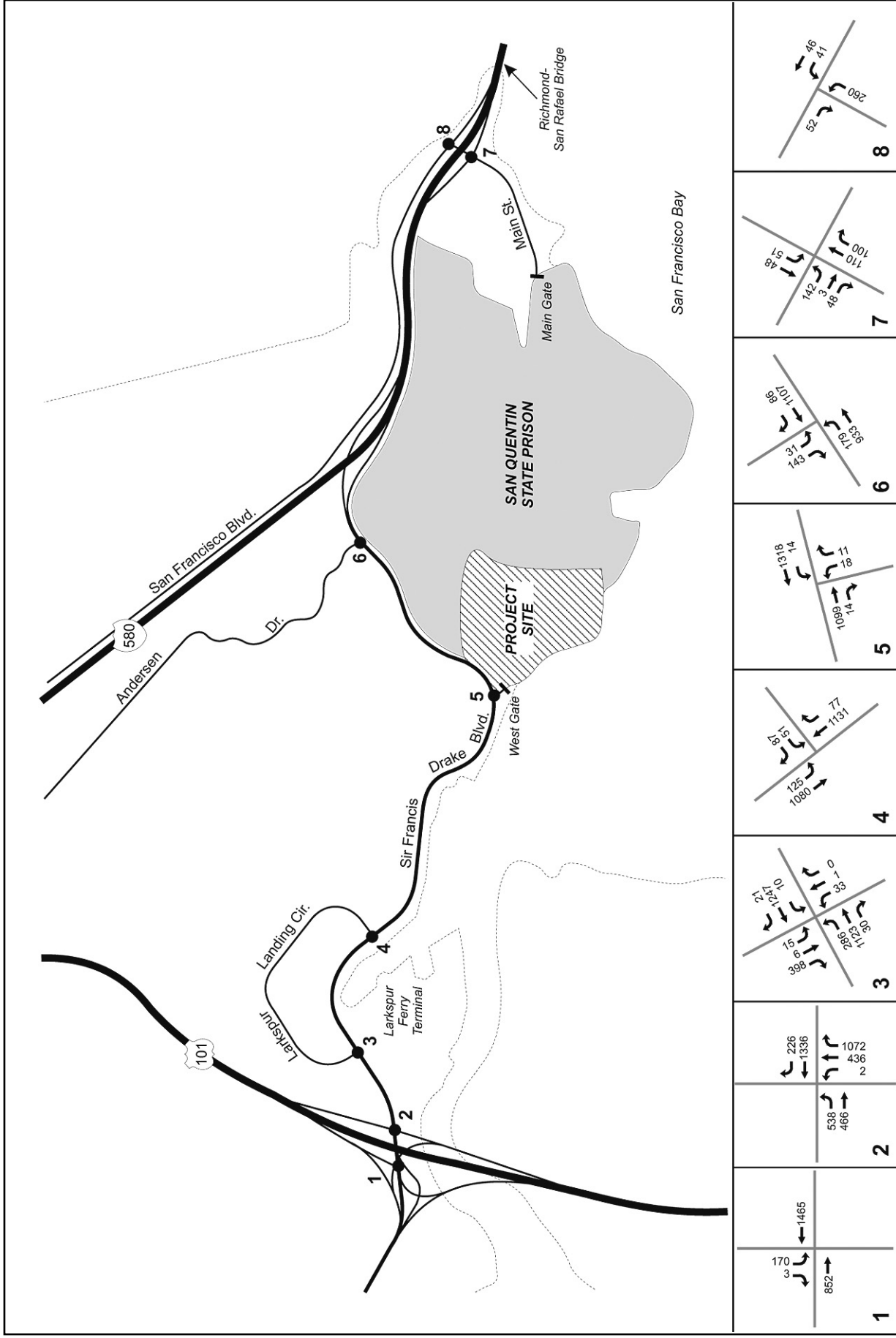
EXHIBIT 4.12-5



Source: DKS Associates 2004

## Existing Roadway Traffic Volumes – Weekday Midday Peak Hour

EXHIBIT 4.12-6



Source: DKS Associates 2004

## Existing Roadway Traffic Volumes – Weekend Midday Peak Hour

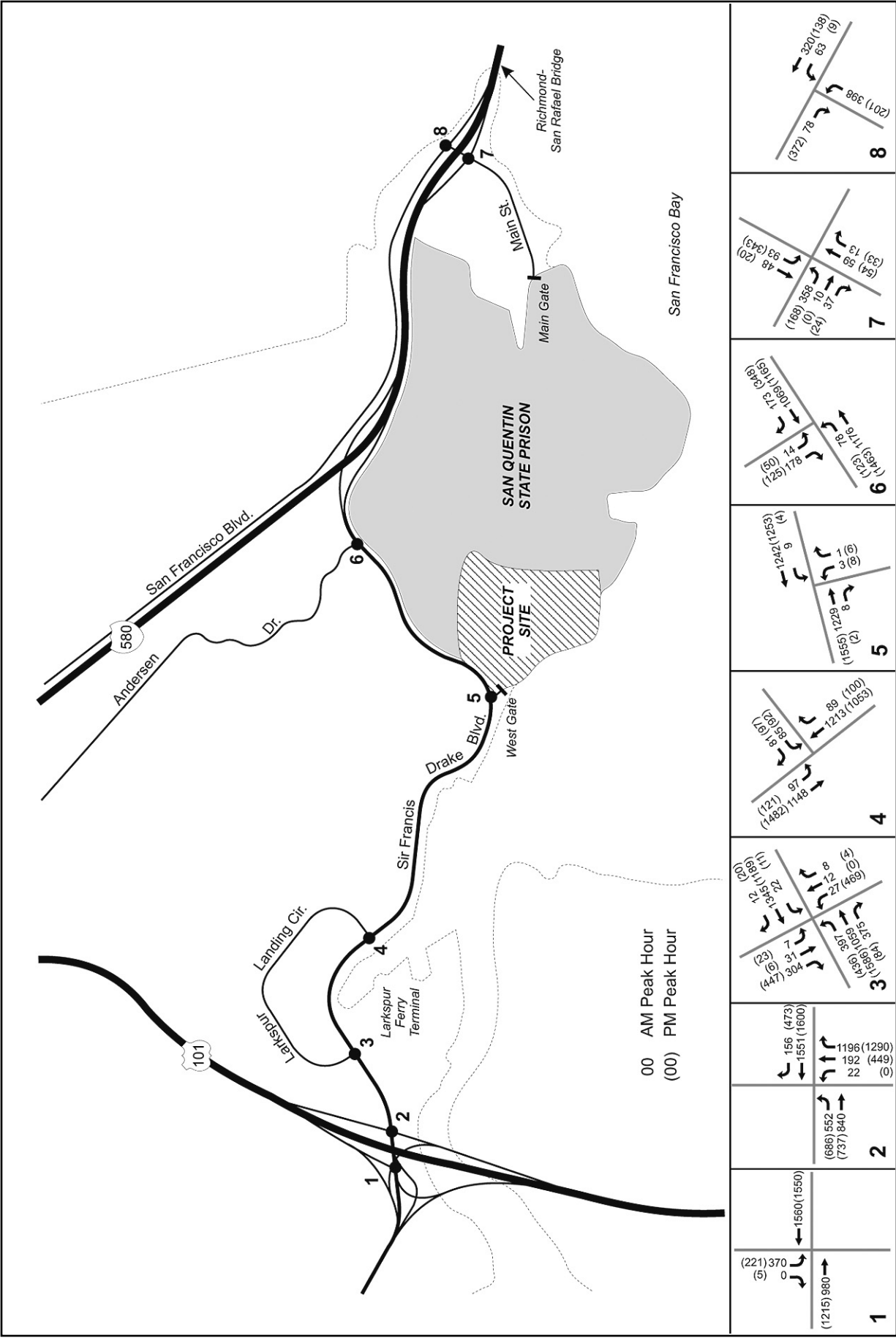
EXHIBIT 4.12-7

Based on applicable intersection standards, all study intersections currently operate at an acceptable LOS under existing conditions, with the exception of the San Quentin West Gate/Sir Francis Drake Boulevard and the Anderson Drive/Sir Francis Drake Boulevard intersections. These intersections operate at LOS F during the weekday a.m., weekday midday, weekday p.m. and weekend midday peak hours. Although the San Quentin West Gate/Sir Francis Drake Boulevard intersection operates with only slight delays, the northbound left-turning vehicles coming out of SQSP at the west gate have difficulty finding gaps through traffic on Sir Francis Drake Boulevard, resulting in an LOS F. Similar to the San Quentin West Gate/Sir Francis Drake Boulevard intersection, the Andersen Drive/Sir Francis Drake Boulevard intersection operates with slight delays, but the southbound left-turning vehicles from Andersen Drive have difficulty finding gaps in the traffic on Sir Francis Drake Boulevard, resulting in an LOS F.

### **Background LOS**

Background conditions represent the traffic expected to be generated by approved and planned projects before completion of the project (anticipated to be in 2007) added to the existing condition turning movement volumes at the study intersections. Based on consultation with the City of Larkspur staff, one project was considered in the background scenario, Larkspur Landing Circle. In addition, the City of San Rafael provided a.m. and p.m. peak hour existing and baseline (approved/planned) intersection turning movement volumes for the study intersections in San Rafael. The background traffic conditions during the weekday a.m., weekday midday, weekday p.m., and weekend midday peak hours at the 8 study intersections are shown in Table 4.12-4 and illustrated on Exhibits 4.12-8, 4.12-9, and 4.12-10.

<b>Table 4.12-4</b>									
<b>Traffic Operating Conditions Background Scenario</b>									
#	Intersection	Weekday						Weekend	
		a.m. Peak		Midday		p.m.		Midday	
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>
1	U.S. 101 SB off-ramp/Sir Francis Drake Boulevard <sup>3</sup>	12.8	B	5.7	B	6.9	B	4.2	A
2	U.S. 101 NB on/off ramp/Sir Francis Drake Boulevard <sup>3</sup>	15.3	C	16.8	C	20.6	C	16.2	C
3	Larkspur Landing Cr (W)/Sir Francis Drake Boulevard <sup>3</sup>	13.0	B	14.6	B	19.3	C	13.5	B
4	Larkspur Landing Cr (E)/Sir Francis Drake Boulevard <sup>3</sup>	8.2	B	5.8	B	8.3	B	6.7	B
5	San Quentin West Gate/Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	>50	F
6	Andersen Drive/Sir Francis Drake Boulevard <sup>4</sup>	>50	F	>50	F	>50	F	>50	F
7	Main Street/I-580 EB on/off ramp <sup>4</sup>	14.8	B	18.7	C	15.1	C	10.4	B
8	Main Street/I-580 WB off-ramp <sup>4</sup>	16.3	B	14.5	B	10.6	B	10.0	A
Notes: Intersections 1-4 are signalized; Intersections 5-8 are unsignalized. <sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle. <sup>2</sup> LOS: Level of Service <sup>3</sup> City of Larkspur Intersection <sup>4</sup> City of San Rafael Intersection Source: DKS Associates 2004									

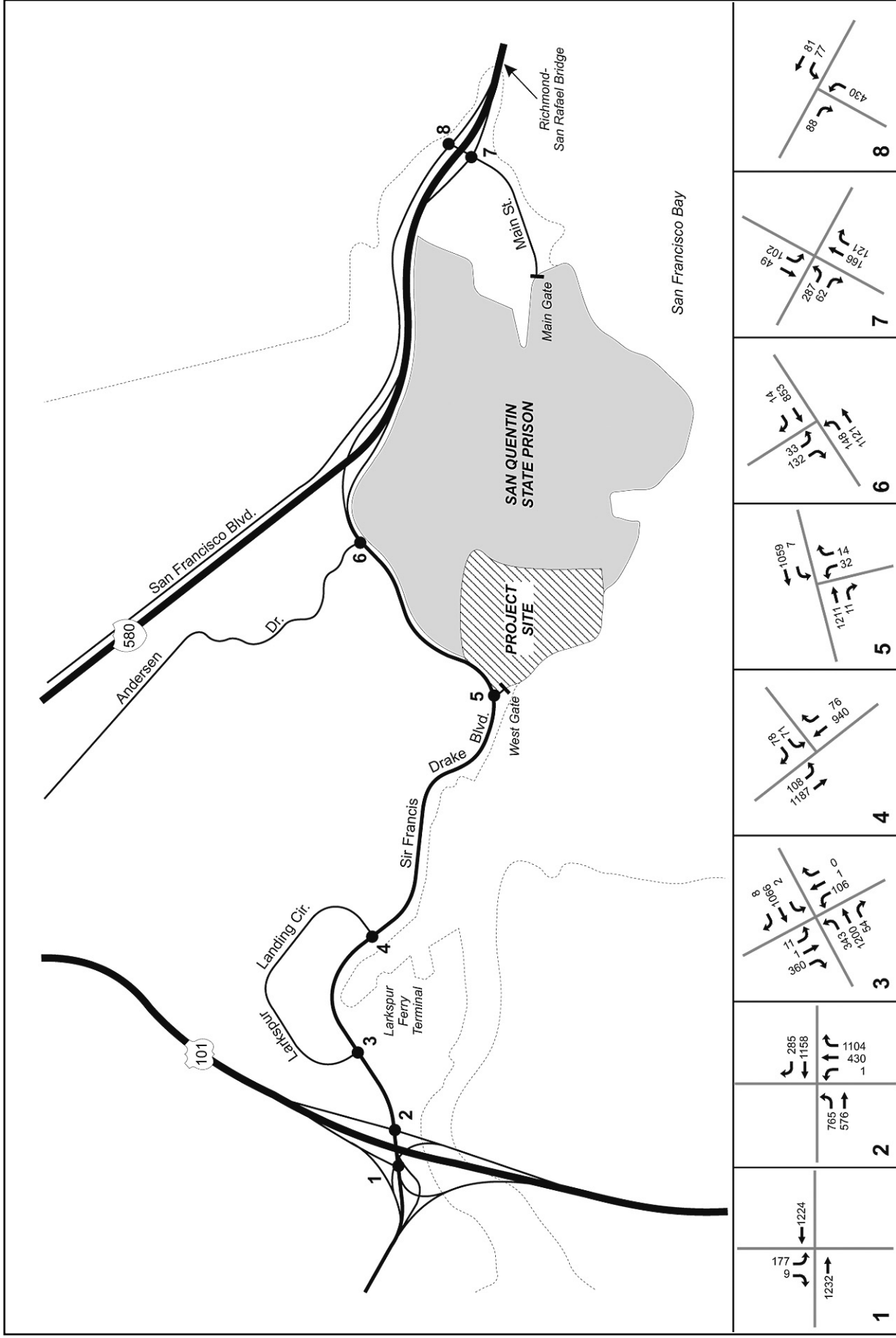


Source: DKS Associates 2004

## Background Conditions – Weekday AM and PM Peak Hour

EXHIBIT 4.12-8

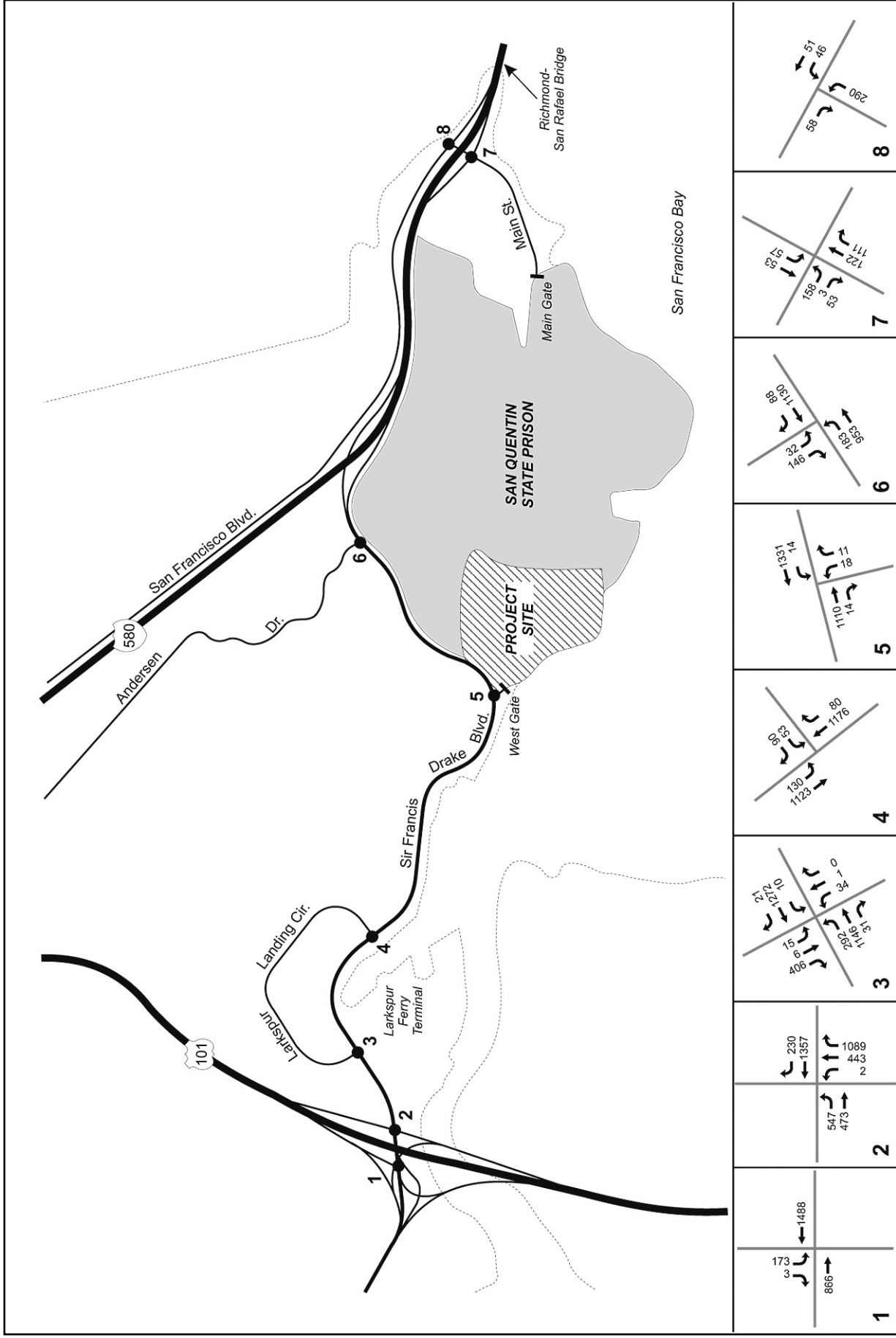




Source: DKS Associates 2004

## Background Conditions – Weekday Midday Peak Hour

EXHIBIT 4.12-9



Source: DKS Associates 2004

## Background Conditions – Weekend Midday Peak Hour

EXHIBIT 4.12-10

Similar to existing conditions, all study intersections would continue to operate at an acceptable LOS for the background conditions, with the exception of the San Quentin West Gate/Sir Francis Drake Boulevard and the Anderson Drive/Sir Francis Drake Boulevard intersections.

### Trip Generation

Trip generation for the project was based on a 24-hour traffic count and parking survey conducted at Main Street and SQSP east gate for the weekday a.m., weekday midday, weekday p.m., and weekend midday peak hours (Table 4.12-5).

Table 4.12-5 Project Trip Generation																									
Land Use	Units	Weekday																		Weekend					
		a.m. peak						midday peak						p.m. peak						midday peak					
		Size	Rate <sup>1</sup>	%		Trips		Size	Rate <sup>1</sup>	%		Trips		Size	Rate <sup>1</sup>	%		Trips		Size	Rate <sup>1</sup>	%		Trips	
				In	Out	In	Out			In	Out	In	Out			In	Out	In	Out			In	Out		
Prison	Employees <sup>2</sup>	297	0.11	70	30	22	10	97	1.17	23	77	26	87	169	0.18	25	75	8	23	92	1.06	39	61	38	60
<sup>1</sup> Rate: trips per employee. <sup>2</sup> Net additional employees. Source: DKS Associates.																									

### Trip Distribution

The directions of approach and departure for project trips were estimated based on existing travel patterns. Existing travel patterns were derived from information about employees current residences (by zip code) provided by CDC. Exhibit 4.12-11 illustrates the trip distribution of the project for the weekday a.m., weekday midday, weekday p.m., and weekend midday peak hours.

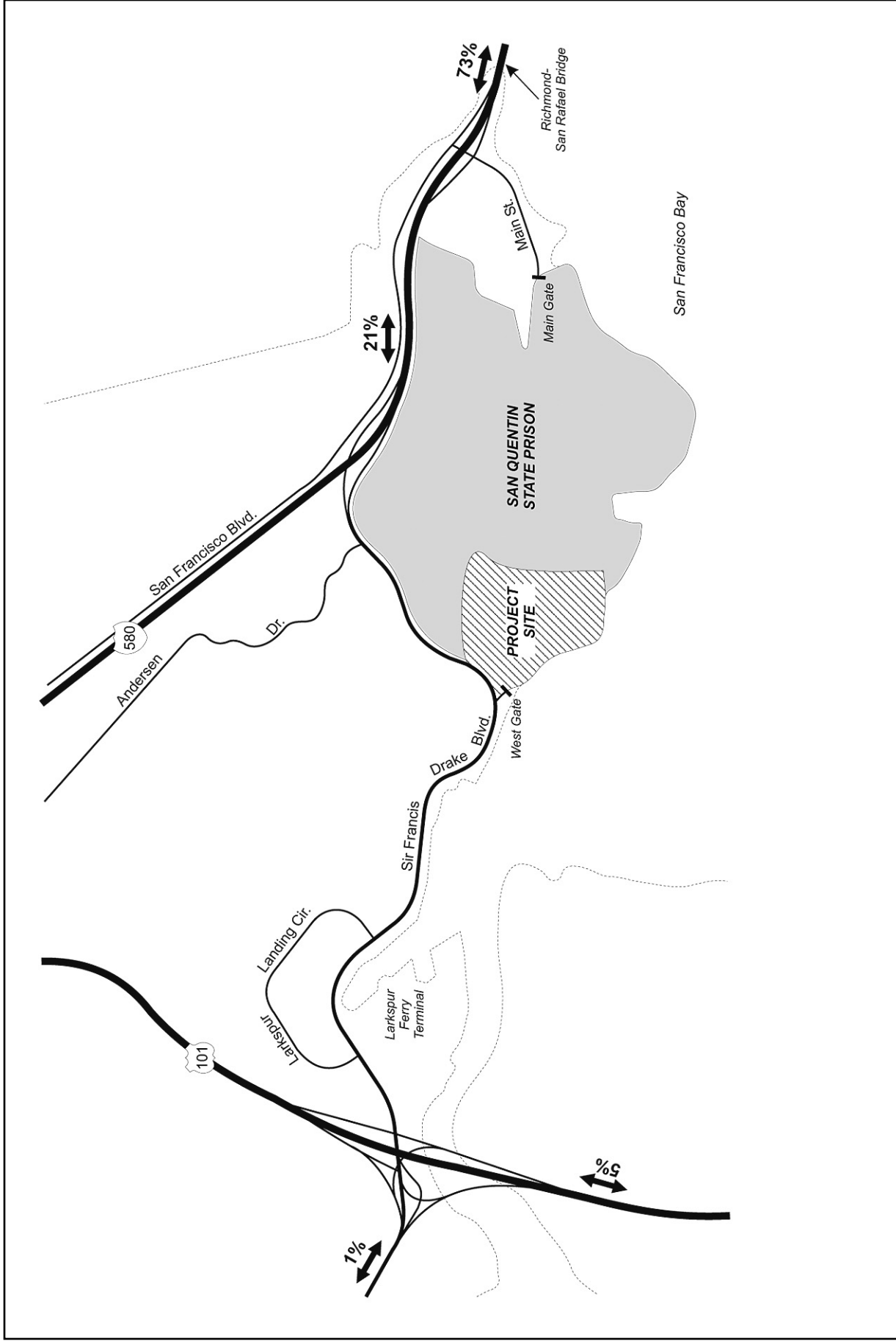
### Trip Assignment

The directions of approach and departure for project trips were estimated based on the existing roadway network, the locations of the project access points, travel patterns, and locations of complementary land uses. The proportion of these trips that would travel through the study intersections was used for the intersection LOS analysis under the project condition. Based on the existing locations of employee and visitor parking facilities, and future restrictions on used west gate<sup>1</sup> projected new trips were assigned to the east gate entrance.

### Project Traffic

Project conditions include background traffic conditions plus project-generated traffic estimated for the CIC. The traffic volumes associated with the project were estimated using a three-step process: estimating trip generation, determining trip distribution pattern, and assigning project-related trips to the local roadway network.

<sup>1</sup> CDC will post that west gate is not to be used.



Source: DKS Associates 2004

## Project Trip Distribution

EXHIBIT 4.12-11

### 4.12.3 ENVIRONMENTAL IMPACTS OF THE PROJECT

#### THRESHOLDS OF SIGNIFICANCE

The project would have a significant impact on traffic it would:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system.
- exceed, either individually or cumulatively, a level of service standard established by local jurisdictions including the City of Larkspur or City of San Rafael, or
- result in inadequate parking capacity.

#### DEGRADATION OF LOS AT INTERSECTIONS

As described in Table 4.12-5, the project would result in the generation of 32 a.m. peak hour (22 inbound/10 outbound), 113 midday peak hour (22 inbound/87 outbound), 31 p.m. peak hour (8 inbound/23 outbound), and 98 weekend midday peak hour (38 inbound/60 outbound) trips. Intersection LOS calculations were conducted to evaluate intersection operations under project conditions. The results of the LOS analysis are summarized in Table 4.12-6. Table 4.12-7 presents the project's contribution to existing intersection volumes for the 5 study intersections located in the City of Larkspur. Tables 4.12-8 through 4.12-11 summarize the intersection operations under the existing, background, and project scenarios for the weekday a.m., weekday midday, weekday p.m., and weekend midday peak hours.

Similar to the existing and background conditions, all study intersections in the City of Larkspur, with the exception of the San Quentin West Gate/Sir Francis Drake Boulevard intersection, would operate under acceptable conditions. Although, the San Quentin West Gate/Sir Francis Drake Boulevard would continue to operate at LOS F during all peak conditions evaluated, the project would only increase traffic volumes at this intersection by 7 vehicles or 0.30% (Table 4.12-7), which is less than City of Larkspur thresholds. Therefore, the project would not result in a significant traffic impact to this intersection.

<b>Table 4.12-6</b> <b>Traffic Operating Conditions Project Scenario</b>									
#	Intersection	Weekday						Weekend	
		a.m. Peak		Midday		p.m.		Midday	
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>
1	U.S. 101 SB off-ramp & Sir Francis Drake Blvd <sup>3</sup>	12.8	B	5.7	B	6.8	B	4.2	A
2	U.S. 101 NB on/off ramp & Sir Francis Drake Blvd <sup>3</sup>	15.3	C	16.8	C	20.6	C	16.2	C
3	Larkspur Landing Cr (W) & Sir Francis Drake Blvd <sup>3</sup>	13.0	B	14.6	B	19.3	C	13.5	B
4	Larkspur Landing Cr (E) & Sir Francis Drake Boulevard <sup>3</sup>	8.2	B	5.8	B	8.3	B	6.7	B
5	San Quentin West Gate & Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	>50	F

**Table 4.12-6  
Traffic Operating Conditions Project Scenario**

#	Intersection	Weekday						Weekend	
		a.m. Peak		Midday		p.m.		Midday	
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>
6	Andersen Drive & Sir Francis Drake Boulevard <sup>4</sup>	>50	F	>50	F	>50	F	>50	F
7	Main Street & I-580 EB on/off ramp <sup>4</sup>	15.1	C	39.2	E	15.4	C	11.7	B
8	Main Street & I-580 WB off-ramp <sup>4</sup>	17.1	C	16.2	C	10.8	B	10.5	B
Notes: Intersections 1-4 are signalized; Intersections 5-8 are unsignalized. <sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle. <sup>2</sup> LOS: Level of Service <sup>3</sup> City of Larkspur Intersection <sup>4</sup> City of San Rafael Intersection									

**Table 4.12-7  
Project Contribution to Existing Intersection Volumes**

#	Intersection		Existing Volumes	Project Trips	% of Existing Volume	Impact Yes/No
1	U.S. 101 SB off-ramp & Sir Francis Drake Boulevard	Weekday a.m.	2,874	1	.03 %	No
		Weekday Midday	2,601	5	.19 %	No
		Weekday p.m.	2944	1	.03 %	No
		Weekend Midday	2490	4	.16 %	No
2	U.S. 101 NB on/off ramp & Sir Francis Drake Boulevard	Weekday a.m.	4437	2	.05 %	No
		Weekday Midday	4252	6	.14 %	No
		Weekday p.m.	5153	1	.02 %	No
		Weekend Midday	4076	6	.15 %	No
3	Larkspur Landing Cr (W) & Sir Francis Drake Boulevard	Weekday a.m.	3524	2	.06 %	No
		Weekday Midday	3093	7	.23 %	No
		Weekday p.m.	4191	1	.02 %	No
		Weekend Midday	3170	6	.19 %	No
4	Larkspur Landing Cr (E) & Sir Francis Drake Boulevard	Weekday a.m.	2615	2	.08 %	No
		Weekday Midday	2366	7	.30 %	No
		Weekday p.m.	2833	1	.04 %	No
		Weekend Midday	2551	6	.24 %	No
5	San Quentin West Gate & Sir Francis Drake Boulevard	Weekday a.m.	2467	2	.08 %	No
		Weekday Midday	2312	7	.30 %	No
		Weekday p.m.	2800	1	.04 %	No
		Weekend Midday	2474	6	.24 %	No

**Table 4.12-8  
Traffic Operating Conditions Weekday A.M. Peak Comparison**

#	Intersection	Weekday						
		Existing		Background		Project		Impact (yes/no)
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	
1	U.S. 101 SB off-ramp & Sir Francis Drake Boulevard <sup>3</sup>	12.7	B	12.8	B	12.8	B	NO
2	U.S. 101 NB on/off ramp & Sir Francis Drake Boulevard <sup>3</sup>	15.2	C	15.3	C	15.3	C	NO
3	Larkspur Landing Cr (W) & Sir Francis Drake Boulevard <sup>3</sup>	12.9	B	13.0	B	13.0	B	NO
4	Larkspur Landing Cr (E) & Sir Francis Drake Boulevard <sup>3</sup>	5.8	B	8.2	B	8.2	B	NO
5	San Quentin West Gate & Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	NO
6	Andersen Drive & Sir Francis Drake Boulevard <sup>4</sup>	>50	F	>50	F	>50	F	NO
7	Main Street & I-580 EB on/off ramp <sup>4</sup>	11.0	B	14.8	B	15.1	C	NO
8	Main Street & I-580 WB off-ramp <sup>4</sup>	11.8	B	16.3	B	17.1	C	NO
Notes: Intersections 1-4 are signalized; Intersections 5-8 are unsignalized.								
<sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle.								
<sup>2</sup> LOS: Level of Service								
<sup>3</sup> City of Larkspur Intersection								
<sup>4</sup> City of San Rafael Intersection								

**Table 4.12-9  
Traffic Operating Conditions Weekday Midday Peak Comparison**

#	Intersection	Weekday						
		Existing		Background		Project		Impact (yes/no)
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	
1	U.S. 101 SB off-ramp & Sir Francis Drake Boulevard <sup>3</sup>	5.6	B	5.7	B	5.7	B	NO
2	U.S. 101 NB on/off ramp & Sir Francis Drake Boulevard <sup>3</sup>	16.5	C	16.8	C	16.8	C	NO
3	Larkspur Landing Cr (W) & Sir Francis Drake Boulevard <sup>3</sup>	14.5	B	14.6	B	14.6	B	NO
4	Larkspur Landing Cr (E) & Sir Francis Drake Boulevard <sup>3</sup>	5.7	B	5.8	B	5.8	B	NO
5	San Quentin West Gate & Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	NO
6	Andersen Drive & Sir Francis Drake Boulevard <sup>4</sup>	>50	F	>50	F	>50	F	NO
7	Main Street & I-580 EB on/off ramp <sup>4</sup>	15.2	C	18.7	C	39.2	E	YES
8	Main Street & I-580 WB off-ramp <sup>4</sup>	12.5	B	14.5	B	16.2	C	NO
Notes: Intersections 1-4 are signalized; Intersections 5-8 are unsignalized.								
<sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle.								
<sup>2</sup> LOS: Level of Service								
<sup>3</sup> City of Larkspur Intersection								
<sup>4</sup> City of San Rafael Intersection								

<div>Table 4.12-10</div> <div>Traffic Operating Conditions Weekday P.M. Peak Comparison</div>								
#	Intersection	Weekday						Impact (yes/no)
		Existing		Background		Project		
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	
1	U.S. 101 SB off-ramp & Sir Francis Drake Boulevard <sup>3</sup>	6.4	B	6.9	B	6.8	B	NO
2	U.S. 101 NB on/off ramp & Sir Francis Drake Boulevard <sup>3</sup>	20.3	C	20.6	C	20.6	C	NO
3	Larkspur Landing Cr (W) & Sir Francis Drake Boulevard <sup>3</sup>	19.0	C	19.3	C	19.3	C	NO
4	Larkspur Landing Cr (E) & Sir Francis Drake Boulevard <sup>3</sup>	5.8	B	8.3	B	8.3	B	NO
5	San Quentin West Gate & Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	NO
6	Andersen Drive & Sir Francis Drake Boulevard <sup>4</sup>	>50	F	>50	F	>50	F	NO
7	Main Street & I-580 EB on/off ramp <sup>4</sup>	12.4	B	15.1	C	15.4	C	NO
8	Main Street & I-580 WB off-ramp <sup>4</sup>	9.8	A	10.6	B	10.8	B	NO
Notes: Intersections 1-4 are signalized; Intersections 5-8 are unsignalized. <sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle. <sup>2</sup> LOS: Level of Service <sup>3</sup> City of Larkspur Intersection <sup>4</sup> City of San Rafael Intersection								

Table 4.12-11 Traffic Operating Conditions Weekend Midday Peak Comparison								
#	Intersection	Weekday						Impact (yes/no)
		Existing		Background		Project		
		Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	Avg. Delay <sup>1</sup>	LOS <sup>2</sup>	
1	U.S. 101 SB off-ramp & Sir Francis Drake Boulevard <sup>3</sup>	4.5	A	4.2	A	4.2	A	NO
2	U.S. 101 NB on/off ramp & Sir Francis Drake Boulevard <sup>3</sup>	15.9	C	16.2	C	16.2	C	NO
3	Larkspur Landing Cr (W) & Sir Francis Drake Boulevard <sup>3</sup>	13.3	B	13.5	B	13.5	B	NO
4	Larkspur Landing Cr (E) & Sir Francis Drake Boulevard <sup>3</sup>	6.5	B	6.7	B	6.7	B	NO
5*	San Quentin West Gate & Sir Francis Drake Boulevard <sup>3</sup>	>50	F	>50	F	>50	F	NO
6*	Andersen Drive & Sir Francis Drake Boulevard <sup>4</sup>	>50	F	>50	F	>50	F	NO
7*	Main Street & I-580 EB on/off ramp <sup>4</sup>	9.8	A	10.4	B	11.7	B	NO
8*	Main Street & I-580 WB off-ramp <sup>4</sup>	9.4	A	10.0	A	10.5	B	NO
Notes: Intersections 1-4 are signalized; Intersections 5-8 are unsignalized. <sup>1</sup> Avg. Delay: Average Delay in seconds per vehicle. <sup>2</sup> LOS: Level of Service <sup>3</sup> City of Larkspur Intersection <sup>4</sup> City of San Rafael Intersection								



With implementation of the project, the intersection of Andersen Drive/ Sir Francis Drake Boulevard would continue to operate at LOS F during all peak hours evaluated. The project would increase the average delay of this intersection by less than 5 seconds, which is less than the City of San Rafael thresholds. Therefore, the project would not result in significant traffic impacts at this intersection.

With implementation of the project, the LOS at the intersection of Main Street/I-580 eastbound on/off ramp would deteriorate from LOS C to LOS E during the weekday midday peak hour, which exceeds the City San Rafael's significance thresholds. This would be a significant impact. This intersection would operate under acceptable conditions during all other peak conditions evaluated. No other intersections would be significantly affected by project traffic.

*With implementation of the project, all study intersections would operate at acceptable levels or under significance thresholds of the jurisdictions in which the intersections are located with the exception of the Main Street/I-580 eastbound on/off ramp intersection. The addition of project-related traffic to this intersection would decrease the LOS from LOS C to LOS E during the weekday midday peak hour. This would be a significant traffic impact (Impact 4.12-a).*

### **CONSTRUCTION-RELATED TRAFFIC IMPACTS**

The project would be constructed over a 3 year period. During the peak construction period (approximately 2 to 3 months), construction activities would require up to 600 construction workers that would commute to the site on the daily basis. These construction workers would result in the generation of 904 daily vehicle trips. In addition, 300 one-way truck trips would occur on a daily basis for the hauling of project equipment and supplies, resulting in a total of 1,204 daily trips (DKS 2004). During the remainder of the construction period, construction-related traffic trips would be substantially less with approximately 100 construction workers commuting to the site on a daily basis. During this period the project is estimated to generate 150 daily trips and 50 one-way truck trips (DKS 2004).

During the peak construction period, if all construction workers arrived during the morning peak hour and departed during the evening peak hour, the project would result in the generation 482 peak hour trips (452 construction worker/30 trucks) (approximately 4 times estimated project trips). Although these trips would be temporary, they could occur during peak traffic hours and could substantially affect the operation of local roadway intersections.

*Because project-generated construction trips could substantially affect the operation of local roadway intersections, this would be a potentially significant construction-related traffic impact (Impact 4.12-b).*

### **PUBLIC TRANSIT IMPACTS**

Based on the 2000 census data for Marin County, approximately 10% of the population uses public transit. Of those, 7% use bus/trolley services and 3% use ferry services as their mode of transportation. Assuming a similar transit-mode share, the project would generate 2 to 7 peak-hour bus transit trips each weekday and weekend, and 1 to 3 peak-hour ferry transit trips. These project-related transit trips would not be expected to substantially increase load factors on existing transit vehicles.

*Because the project-generated transit trips would not be expected substantially increase load factors on existing transit vehicles, this would be a less-than-significant public transit impact (Impact 4.12-c).*

## OPERATIONAL PARKING IMPACTS

The project under maximum design capacity (i.e., 7,380 inmates) would increase the number of staff employed at SQSP by 648 employees. Table 3-2 in Chapter 3 of this Draft EIR presents the estimated staffing by shift for the CIC. Table 4.12-12 presents the supply and demand of existing parking facilities and was prepared based on a parking lot survey of parking areas at SQSP (DKS 2004).

<b>Table 4.12-12</b> <b>Existing Parking Supply vs. Parking Demand</b>						
Location		Parking Supply	Parking Demand			
			Weekday			Weekend
			A.M.	Middayl	P.M.	Middayl
East Gate	Employee	383	122	136	151	183
	Visitor	82	2	8	14	53
	Overflow	91	2	8	15	15
<b>Total</b>		556	126	152	180	251
West Gate	State Vehicles	135	61	67	74	83
	RV's	42	41	41	42	37
	H-Unit	41	30	32	34	34
<b>Total</b>		218	132	140	150	154

The project would result in demand for an additional 16 parking spaces during the weekday a.m. peak hour, 52 parking spaces during the weekday midday peak hour, 16 parking spaces during the p.m. peak hour, and 49 parking spaces during the weekend midday peak hour. These parking demand calculations assumed that the number of spaces required would be half of the net new trip generation (i.e., 16 spaces would be required for 32 a.m. peak hour new trips), which is a conservative estimate for parking demands (DKS 2004).

With implementation of the project, 218 existing parking spaces would be removed and 272 new parking spaces would be constructed at the project site. Overall, the project would result in an increase of 54 parking spaces compared to existing conditions, which would be sufficient to accommodate project-related parking demands.

*Although the project would increase demands for parking by a maximum of 52 spaces, the project would increase the number of parking spaces at SQSP by approximately 54 spaces. Therefore, the project would not affect existing parking supplies. This would be a less-than-significant impact (Impact 4.12-d).*

## CONSTRUCTION-RELATED PARKING IMPACTS

Under worst-case conditions, construction activities at the project site would require up to 600 construction workers that would commute to the site on the daily basis and up to 300 one-way truck trips. Assuming a parking demand of 0.5 for each construction trip (i.e., 904) and truck trip (i.e., 300), the project's construction-related parking demands would be approximately 602 spaces (i.e.,  $[904+300]*0.5$ ).

SQSP currently provides approximately 774 designated parking spaces at SQSP, and as many as 405 spaces are occupied during worst-case peak operational conditions. Therefore, approximately 369 spaces would be available for construction vehicles. CDC intends to use all available disturbed space on the project site and within SQSP to accommodate construction vehicles during the construction period. One

option would be to park construction vehicles along the existing perimeter roadway on the project site. However, it is unknown at this time if adequate space is available to accommodate all construction vehicles on the project site or at SQSP.

*Although some (i.e., 369 spaces) designated parking spaces would be available for construction vehicles during the project construction period, it is unknown at this time whether all construction vehicles would be able to be accommodated on the project site or at SQSP. Because the project's construction parking demands would exceed available parking supplies, this would be a significant impact (Impact 4.12-e).*

#### **4.12.4 PROPOSED MITIGATION MEASURES**

##### **LESS-THAN-SIGNIFICANT IMPACTS**

The following traffic impacts were identified as less than significant and, therefore, no mitigation is required:

**4.12-c:** Public Transit Impacts

**4.12-d:** Operational Parking Impacts

##### **SIGNIFICANT IMPACTS THAT CAN BE MITIGATED TO A LESS-THAN-SIGNIFICANT LEVEL**

The following impacts were identified as significant:

##### **4.12-a:** Degradation of LOS at Intersections

To achieve acceptable LOS under the project conditions at the Main Street/I-580 eastbound on/off-ramp intersection, implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

- CDC will contribute its fair-share contribution to the installation of a new traffic signal at the Main Street/I-580 eastbound on/off-ramp intersection. Implementation of this measure would allow this intersection to operate at an acceptable LOS under the weekday a.m., weekday midday, weekday p.m., and weekend midday peak hours. Currently, the City of San Rafael has no improvements planned for this intersection as part of its transportation improvement program. However, the City is in the process of establishing a traffic fee mitigation program that would collect monies that would fund transportation improvements to roadways within their jurisdiction. CDC will coordinate with the City of San Rafael to determine the project's fair-share contribution to the funding of the installation of a traffic signal at the Main Street/I-580 eastbound on/off-ramp intersection.

##### **4.12-b:** Construction-Related Traffic Impacts

- Construction employee arrival and departure schedules shall be staggered so they do not coincide with adjacent street peak hours (7:00 a.m. – 9:00 a.m., and 4:00 p.m. – 6:00 p.m.).
- The long term traffic improvements referenced in 4.12-a would result in the installation of traffic signals at the Main Street/I-580 on/off ramps intersection (see 4.12-a). CDC would pay fair share of cost for improvements before the proposed project is completed.

#### **4.12-e: Construction-Related Parking Impacts**

- All parking will be accommodated on site or at designated offsite areas designated for such uses (i.e., garages, lots). Construction employees will be instructed where acceptable SQSP designated parking locations are located. If necessary, parking management practices such as valet or stacked parking onsite, or offsite parking with shuttles to and from the site will be implemented.